REGULATION III - CONTROL OF AIR CONTAMINANTS

RULE 310

FUGITIVE DUST

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MARICOPA COUNTY AIR POLLUTION CONTROL REGULATIONS REGULATION III - CONTROL OF AIR CONTAMINANTS

RULE 310 FUGITIVE DUST

SECTION 100 - GENERAL

- **PURPOSE:** To limit particulate matter emissions into the ambient air from any property, operation or activity that may serve as a fugitive dust source. The effect of this rule shall be to minimize the amount of PM₁₀ entrained into the ambient air as a result of the impact of human activities by requiring measures to prevent, reduce, or mitigate particulate matter emissions.
- **APPLICABILITY:** The provisions of this rule shall apply to all dust generating operations except for those dust generating operations listed in Section 103.
- **EXEMPTIONS:** The following are exempt from the requirements of this rule: normal farm cultural practices under Arizona Revised Statutes (A.R.S.) §49-457 and §49-504.4, and open areas, vacant lots, unpaved parking lots, and unpaved roadways that are not located at sources that require any permit under these rules.

SECTION 200 - DEFINITIONS: For the purpose of this rule, the following definitions shall apply. See Rule 100 (General Provisions And Definitions) of these rules for definitions of terms that are used but not specifically defined in this rule.

- **201 AREA ACCESSIBLE TO THE PUBLIC** Any retail parking lot or public roadway that is open to public travel primarily for purposes unrelated to the dust generating operation.
- **BULK MATERIAL** Any material, including, but not limited to, earth, rock, silt, sediment, sand, gravel, soil, fill, aggregate less than 2 inches in length or diameter (i.e., aggregate base course (ABC)), earth, soil, dirt, mud, demolition debris, cotton, trash, cinders, pumice, rock, saw dust, feeds, grains, fertilizers, fluff (from shredders), and dry concrete, that are capable of producing fugitive dust.

- **BULK MATERIAL HANDLING, STORAGE, AND/OR TRANSPORTING OPERATION -** The use of equipment, haul trucks, and/or motor vehicles, including, but not limited to, the loading, unloading, conveying, transporting, piling, stacking, screening, grading, or moving of bulk materials, that are capable of producing fugitive dust.
- **204 CONTROL MEASURE -** A technique, practice, or procedure used to prevent or minimize the generation, emission, entrainment, suspension, and/or airborne transport of fugitive dust. Control measures include, but are not limited to:
 - **204.1** Curbing;
 - **204.2** Paving;
 - **204.3** Pre-wetting;
 - **204.4** Applying dust suppressants;
 - **204.5** Physically stabilizing with vegetation, gravel, recrushed/recycled asphalt or other forms of physical stabilization;
 - **204.6** Limiting, restricting, phasing and/or rerouting motor vehicle access;
 - **204.7** Reducing vehicle speeds and/or number of vehicle trips;
 - **204.8** Limiting use of off-road vehicles on open areas and vacant lots;
 - **204.9** Utilizing work practices and/or structural provisions to prevent wind and water erosion onto paved areas accessible to the public;
 - **204.10** Appropriately using dust control implements;
 - **204.11** Installing one or more grizzlies, gravel pads, and/or wash down pads adjacent to the entrance of a paved area accessible to the public to control carry-out and trackout;
 - **204.12** Keeping open-bodied haul trucks in good repair, so that spillage may not occur from beds, sidewalls, and tailgates; and
 - **204.13** Covering the cargo beds of haul trucks to minimize windblown dust emissions and spillage.
- **DISTURBED SURFACE AREA** A portion of the earth's surface (or material placed thereupon) which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed native condition, thereby increasing the potential for the emission of fugitive dust. For the purpose of this rule, an area is considered to be a disturbed surface area until the activity that caused the disturbance has been completed and the disturbed surface area meets the standards described in Section 301 and Section 302 of this rule.
- **206 DUST CONTROL IMPLEMENT** A tool, machine, equipment, accessory, structure, enclosure, cover, material or supply, including an adequate readily available supply of water and its associated distribution/delivery system, used to control fugitive dust emissions.
- **207 DUST CONTROL PLAN -** A written plan describing all fugitive dust control measures.

- 208 DUST GENERATING OPERATION Any activity capable of generating fugitive dust, including but not limited to, land clearing, earthmoving, weed abatement by discing or blading, excavating, construction, demolition, bulk material handling, storage and/or transporting operations, vehicle use and movement, the operation of any outdoor equipment, or unpaved parking lots. For the purpose of this rule, landscape maintenance and playing on or maintaining a field used for non-motorized sports shall not be considered a dust generating operation. However, landscape maintenance shall not include grading, trenching, or any other mechanized surface disturbing activities performed to establish initial landscapes or to redesign existing landscapes.
- 209 DUST SUPPRESSANT Water, hygroscopic material, solution of water and chemical surfactant, foam, non-toxic chemical stabilizer or any other dust palliative, which is not prohibited for ground surface application by the U.S. Environmental Protection Agency (EPA) or the Arizona Department of Environmental Quality (ADEQ) or any applicable law, rule, or regulation, as a treatment material for reducing fugitive dust emissions.
- **EARTHMOVING OPERATION** The use of any equipment for an activity which may generate fugitive dust, such as but not limited to, cutting and filling, grading, leveling, excavating, trenching, loading or unloading of bulk materials, demolishing, blasting, drilling, adding to or removing bulk materials from open storage piles, back filling, soil mulching, landfill operations, or weed abatement by discing or blading.
- **211 FREEBOARD** The vertical distance between the top edge of a cargo container area and the highest point at which the bulk material contacts the sides, front, and back of a cargo container area.
- 212 FUGITIVE DUST The particulate matter not collected by a capture system, that is entrained in the ambient air, and is caused from human and/or natural activities, such as, but not limited to, movement of soil, vehicles, equipment, blasting, and wind. For the purpose of this rule, fugitive dust does not include particulate matter emitted directly from the exhaust of motor vehicles and other internal combustion engines, from portable brazing, soldering, or welding equipment, and from piledrivers, and does not include emissions from process and combustion sources that are subject to other rules in Regulation III (Control Of Air Contaminants) of these rules.
- **GRAVEL PAD** A layer of washed gravel, rock, or crushed rock that is at least one inch or larger in diameter, that is maintained at the point of intersection of a paved area accessible to the public and a work site entrance to dislodge mud, dirt, and/or debris from the tires of motor vehicles and/or haul trucks, prior to leaving the work site.

- **214 GRIZZLY** A device (i.e., rails, pipes, or grates) used to dislodge mud, dirt, and/or debris from the tires and undercarriage of motor vehicles and/or haul trucks prior to leaving the work site.
- **215 HAUL TRUCK -** Any fully or partially open-bodied self-propelled vehicle including any non-motorized attachments, such as, but not limited to, trailers or other conveyances that are connected to or propelled by the actual motorized portion of the vehicle used for transporting bulk materials.
- **MOTOR VEHICLE** A self-propelled vehicle for use on the public roads and highways of the State of Arizona and required to be registered under the Arizona State Uniform Motor Vehicle Act, including any non-motorized attachments, such as but not limited to, trailers or other conveyances which are connected to or propelled by the actual motorized portion of the vehicle.
- **217 NORMAL FARM CULTURAL PRACTICE** All activities by the owner, lessee, agent, independent contractor, and/or supplier conducted on any facility for the production of crops and/or nursery plants. Disturbances of the field surface caused by turning under stalks, tilling, leveling, planting, fertilizing, or harvesting are included in this definition.
- **218 OFF-ROAD VEHICLE** Any self-propelled conveyance specifically designed for off-road use, including but not limited to, off-road or all-terrain equipment, trucks, cars, motorcycles, motorbikes, or motorbuggies.
- **OPEN AREAS AND VACANT LOTS -** Any of the following described in Section 219.1 through Section 219.4 of this rule. For the purpose of this rule, vacant portions of residential or commercial lots that are immediately adjacent and owned and/or operated by the same individual or entity are considered one open area or vacant lot.
 - **219.1** An unsubdivided or undeveloped tract of land adjoining a developed or partially developed residential, industrial, institutional, governmental, or commercial area.
 - 219.2 A subdivided residential, industrial, institutional, governmental, or commercial lot that contains no approved or permitted buildings or structures of a temporary or permanent nature.
 - **219.3** A partially developed residential, industrial, institutional, governmental, or commercial lot.
 - 219.4 A tract of land, in the nonattainment area, adjoining agricultural property.
- **OWNER AND/OR OPERATOR** The person responsible for obtaining an earthmoving permit under Rule 200, Section 305, or any person who

- owns, leases, operates, controls, or supervises a dust generating operation subject to the requirements of this rule.
- **PAVE** To apply and maintain asphalt, concrete, or other similar material to a roadway surface (i.e., asphaltic concrete, concrete pavement, chip seal, or rubberized asphalt).
- **PUBLIC ROADWAYS** Any roadways that are open to public travel.
- **ROUTINE** Any dust generating operation which occurs more than 4 times per year or lasts 30 cumulative days or more per year.
- **SILT** Any aggregate material with a particle size less than 75 micrometers in diameter, which passes through a No. 200 Sieve.
- **TRACKOUT/CARRYOUT** Any and all bulk materials that adhere to and agglomerate on the surfaces of motor vehicles, haul trucks, and/or equipment (including tires) and that have fallen or been deposited onto a paved area accessible to the public.
- **TRACKOUT CONTROL DEVICE** A gravel pad, grizzly, wheel wash system, or a paved area, located at the point of intersection of an unpaved area and a paved area accessible to the public that controls or prevents vehicular trackout.
- **227 UNPAVED HAUL/ACCESS ROAD** Any on-site unpaved road used by commercial, industrial, institutional, and/or governmental traffic.
- **228 UNPAVED PARKING LOT** Any area larger than 5,000 square feet that is not paved and that is used for parking, maneuvering, or storing motor vehicles.
- **229 UNPAVED ROAD** Any road or equipment path that is not paved. For the purpose of this rule, an unpaved road is not a horse trail, hiking path, bicycle path, or other similar path used exclusively for purposes other than travel by motor vehicles.
- **URBAN OR SUBURBAN OPEN AREA** The definition of urban or suburban open area is included in Section 219 (Definition Of Open Areas And Vacant Lots) of this rule.
- **VACANT LOT** The definition of vacant lot is included in Section 219 (Definition Of Open Areas And Vacant Lots) of this rule.
- **VACANT PARCEL** The definition of vacant parcel is included in Section 219 (Definition Of Open Areas And Vacant Lots) of this rule.

- **WIND-BLOWN DUST -** Visible emissions, from any disturbed surface area, that are generated by wind action alone.
- **WIND EVENT** When the 60-minute average wind speed is greater than 25 miles per hour.
- **WORK SITE** Any property upon which any dust generating operations and/or earthmoving operations occur.

SECTION 300 – STANDARDS

- **301 OPACITY LIMITATION FOR DUST GENERATING OPERATIONS:** The owner and/or operator of a dust generating operation shall not allow visible fugitive dust emissions to exceed 20% opacity as tested by methods described in Appendix C of these rules.
 - **Wind Event:** Exceedances of the opacity limit that occur due to a wind event shall constitute a violation of the opacity limit. However, it shall be an affirmative defense in an enforcement action if the owner and/or operator demonstrates all of the following conditions:
 - All control measures required were followed and 1 or more of the control measures in Tables 20 & 21 was applied and maintained;
 - **b.** The 20% opacity exceedance could not have been prevented by better application, implementation, operation, or maintenance of control measures;
 - c. The owner and/or operator compiled and retained records, in accordance with Section 502 (Recordkeeping) of this rule; and
 - d. The occurrence of a wind event on the day(s) in question is documented by records. The occurrence of a wind event must be determined by the nearest Maricopa County Environmental Services Department Air Quality Division monitoring station, from any other certified meteorological station, or by a wind instrument that is calibrated according to manufacturer's standards and that is located at the site being checked.
 - **301.2** Emergency Maintenance Of Flood Control Channels and Water Retention Basins: No opacity limitation shall apply to emergency maintenance of flood control channels and water retention basins, provided that control measures are implemented.

301.3 Vehicle Test And Development Facilities And Operations: No opacity limitation shall apply to vehicle test and development facilities and operations when dust is required to test and validate design integrity, product quality, and/or commercial acceptance, if such testing is not feasible within enclosed facilities.

302 STABILIZATION REQUIREMENTS FOR DUST GENERATING OPERATIONS:

- **302.1 Unpaved Parking Lot:** The owner and/or operator of any unpaved parking lot shall not allow visible fugitive dust emissions to exceed 20% opacity, and either:
 - **a.** Shall not allow silt loading equal to or greater than 0.33 oz/ft², or
 - **b.** Shall not allow the silt content to exceed 8%.

302.2 Unpaved Haul/Access Road:

- **a.** The owner and/or operator of any unpaved haul/access road (whether including at a work site that is under construction or at a work site that is temporarily or permanently inactive) shall not allow visible fugitive dust emissions to exceed 20% opacity, and either:
 - **1.** Shall not allow silt loading equal to or greater than 0.33 oz/ft²; or
 - **2.** Shall not allow the silt content to exceed 6%.
- b. The owner and/or operator of any unpaved haul/access road (including at a work site that is under construction or a work site that is temporarily or permanently inactive) shall, as an alternative to meeting the stabilization requirements for an unpaved haul/access road, limit vehicle trips to no more than 20 per day per road and limit vehicle speeds to no more than 15 miles per hour. If complying with this subsection, the owner and/or operator must include, in a Dust Control Plan, the maximum number of vehicle trips on the unpaved haul/access roads each day (including number of employee vehicles, earthmoving equipment, haul trucks, and water trucks).
- **302.3 Open Area And Vacant Lot Or Disturbed Surface Area:** The owner and/or operator of an open area and/or vacant lot or any disturbed surface area on which no activity is occurring (including at a work site that is under construction or a work site that is

temporarily or permanently inactive) shall meet at least 1 of the standards described in Sections 302.3(a) through 302.3(g) below, as applicable. Should a disturbed open area and/or vacant lot or any disturbed surface area on which no activity is occurring contain more than one type of disturbance, soil, vegetation, or other characteristics, which are visibly distinguishable, the owner and/or operator shall test each representative surface separately for stability, in an area that represents a random portion of the overall disturbed conditions of the site, according to the appropriate test methods in Appendix C of these rules, and include or eliminate it from the total size assessment of disturbed surface area(s) depending upon test method results. The owner and/or operator of such inactive disturbed surface area shall be considered in violation of this rule if the area is not maintained in a manner that meets at least 1 of the standards listed below, as applicable.

- **a.** Maintain a visible crust;
- **b.** Maintain a threshold friction velocity (TFV) for disturbed surface areas corrected for non-erodible elements of 100 cm/second or higher;
- c. Maintain a flat vegetative cover (i.e., attached (rooted) vegetation or unattached vegetative debris lying on the surface with a predominant horizontal orientation that is not subject to movement by wind) that is equal to at least 50%;
- **d.** Maintain a standing vegetative cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 30%;
- **e.** Maintain a standing vegetative cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 10% and where the threshold friction velocity is equal to or greater than 43 cm/second when corrected for non-erodible elements;
- **f.** Maintain a percent cover that is equal to or greater than 10% for non-erodible elements; or
- **g.** Comply with a standard of an alternative test method, upon obtaining the written approval from the Control Officer and the Administrator of the Environmental Protection Agency (EPA).
- 302.4 Vehicle Test And Development Facilities And Operations:
 No stabilization requirement shall apply to vehicle test and

development facilities and operations when dust is required to test and validate design integrity, product quality, and/or commercial acceptance, if such testing is not feasible within enclosed facilities.

303 DUST CONTROL PLAN REQUIRED:

- 303.1 The owner and/or operator of a dust generating operation shall submit to the Control Officer a Dust Control Plan with any permit applications that involve earthmoving operations with a disturbed surface area that equals or exceeds 0.10 acre, including both of the following situations:
 - **a.** When submitting an application for an earthmoving permit involving earthmoving operations that would equal or exceed 0.10 acre, and
 - **b.** Before commencing any routine dust generating operation at a site that has obtained or must obtain a Title V, Non-Title V, or general permit under Regulation II (Permits And Fees) of these rules.

Compliance with this section does not affect an owner and/or operator's responsibility to comply with the other standards of this rule. The Dust Control Plan shall describe all control measures to be implemented before, after, and while conducting any dust generating operation, including during weekends, after work hours, and on holidays.

- 303.2 A Dust Control Plan shall, at a minimum, contain all the information described in Section 304 of this rule. The Control Officer shall approve, disapprove, or conditionally approve the Dust Control Plan, in accordance with the criteria used to approve, disapprove or conditionally approve a permit. Failure to comply with the provisions of an approved Dust Control Plan is deemed to be a violation of this rule. Regardless of whether an approved Dust Control Plan is in place or not, the owner and/or operator of a dust generating operation is still subject to all requirements of this rule at all times. In addition, the owner and/or operator of a source with an approved Dust Control Plan is still subject to all of the requirements of this rule, even if such owner and/or operator is complying with the approved Dust Control Plan.
- **303.3** At least one primary control measure and one contingency control measure must be identified in the Dust Control Plan for all fugitive dust sources. Should any primary control measure(s) prove ineffective, the owner and/or operator shall immediately implement the contingency control measure(s). If the identified contingency control measure is effective to comply with all of the

requirements of this rule, the owner and/or operator need not revise the Dust Control Plan under Section 305 of this rule.

- **303.4** A Dust Control Plan shall not be required for any of the following activities:
 - **a.** To play on or maintain a field used for non-motorized sports;
 - **b.** For landscape maintenance, which, for the purpose of this rule, does not include grading, trenching, nor or any other mechanized surface disturbing activities; and
 - c. To establish initial landscapes or to redesign existing landscapes of legally-designated public parks and recreational areas, including national parks, national monuments, national forests, state parks, city parks, county regional parks, ballfields, camp sites, and playgrounds at camp sites; hiking paths, horse trails, and bicycle paths that are used exclusively for purposes other than travel by motor vehicles; (for the purpose of this rule, establishing initial landscapes or redesigning existing landscapes does not include grading, trenching, or any other mechanized surface disturbing activities).
- **304 ELEMENTS OF A DUST CONTROL PLAN:** A Dust Control Plan shall contain, at a minimum, all of the following information:
 - **304.1** Name(s), address(es), and phone numbers of person(s) responsible for the submittal and implementation of the Dust Control Plan and responsible for the dust generating operation.
 - **304.2** A drawing, on $8\frac{1}{2}$ " x 11" paper, that shows:
 - Entire project site/facility boundaries,
 - **b.** Acres to be disturbed with linear dimensions,
 - **c.** Nearest public roads,
 - **d.** North arrow, and
 - **e.** Planned exit locations onto paved areas accessible to the public.
 - **304.3** Control measures, or a combination thereof, to be applied to all actual and potential dust generating operations, before, after, and while conducting any dust generating operation, including during weekends, after work hours, and on holidays.

- a. All required control measures from Tables 1-21 and at least one contingency control measure must be identified, for all dust generating operations. Should any primary control measure(s) prove ineffective, the owner and/or operator shall immediately implement the contingency control measure(s). If the identified contingency control measure(s) is effective to comply with all of the requirements of this rule, the owner and/or operator need not revise the Dust Control Plan under Section 305 of this rule.
- **b.** Alternatively, a control measure(s) that is not listed in Tables 1-21 of this rule may be chosen, provided that such control measure(s) is implemented to comply with the standard(s) described in Section 301 and Section 302 of this rule, as determined by the corresponding test method(s), as applicable, and meets other applicable standard(s) set forth in this rule.
- complying with Section 302.2(b) (Stabilization C. If Requirements For Fugitive Dust Sources-Unpaved Haul/Access Road) of this rule, the Dust Control Plan must include the maximum number of vehicle trips on the unpaved haul/access roads each day (including number of employee vehicles, earthmoving equipment, haul trucks, and water trucks).
- **304.4** Dust suppressants to be applied, including all of the following product specifications or label instructions for approved usage:
 - **a.** Method, frequency, and intensity of application;
 - **b.** Type, number, and capacity of application equipment; and
 - **c.** Information on environmental impacts and approvals or certifications related to appropriate and safe use for ground application.
- **304.5** Specific surface treatment(s) and/or control measures utilized to control material trackout and sedimentation where unpaved and/or access points join paved areas accessible to the public.
- **304.6** For construction projects one acre or larger, except for routine maintenance and repair done under a block permit, a statement disclosing which of the four designated texture(s) of soil described in Appendix F of these rules is naturally present at or will be imported to the dust generating operation. The measured soil content at a particular site shall take precedence over any mapped

soil types, and whenever soils have been tested at a particular site, the test results should be relied on rather than the map in Appendix F.

305 DUST CONTROL PLAN REVISIONS:

- **305.1** If the Control Officer determines that an approved Dust Control Plan has been followed, yet fugitive dust emissions from any dust generating operation still exceed standards in Section 301 and Section 302 of this rule, then the Control Officer shall issue a written notice to the owner and/or operator of the dust generating operation explaining such determination.
- 305.2 The owner and/or operator of a dust generating operation shall make written revisions to the Dust Control Plan and shall submit such revised Dust Control Plan to the Control Officer within three working days of receipt of the Control Officer's written notice, unless such time period is extended by the Control Officer, upon request, for good cause. During the time that such owner and/or operator is preparing revisions to the approved Dust Control Plan, such owner and/or operator must still comply with all requirements of this rule.

306 CONTROL MEASURES:

- **306.1** The owner and/or operator of a dust generating operation shall implement control measures before, after, and while conducting operations, including during weekends, after work hours, and on holidays, in accordance with Section 304.3 and Tables 1-21 of this rule.
- **306.2** For the purpose of this rule, any control measure that is implemented must achieve the applicable standard(s) described in Sections 301 and 302 of this rule, as determined by the corresponding test method(s), as applicable, and must achieve other applicable standard(s) set forth in this rule.
- **306.3** Failure to comply with the provisions of Section 308 (Work Practices) of this rule, as applicable, and/or of an approved Dust Control Plan, is deemed a violation of this rule.
- **306.4** Regardless of whether a dust generating operation is in compliance with an approved Dust Control Plan, or there is no approved dust control plan, the owner and/or operator of a dust generating operation is still subject to all requirements of this rule at all times.

- **PROJECT INFORMATION SIGN:** For all sites with an earthmoving permit that are five acres or larger, except for routine maintenance and repair done under a block permit, the owner and/or operator shall erect and maintain a project information sign at the main entrance, that is readable by the public. Such sign shall have a white background, have black block lettering that is at least four inches high, and shall contain at least all of the following information:
 - **307.1** Project name and permit holder,
 - **307.2** Earthmoving Permit number,
 - **307.3** Name and phone number of person(s) responsible for conducting the project, and
 - **307.4** Text stating: "Dust Complaints? Call Maricopa County Environmental Services Department (insert the current/accurate phone number for the complaint phone line)."
- **WORK PRACTICES:** When engaged in the following specific activities, the owner and/or operator of a dust generating operation shall comply with the following work practices in addition to implementing, as applicable, the control measures described in Tables 1-21 of this rule.
 - **308.1 Bulk Material Hauling Off-Site Onto Paved Areas Accessible to the Public:** Notwithstanding other sections of this rule, the owner and/or operator of a dust generating operation and the owner and/or operator of a haul truck shall do all of the following:
 - **a.** Load all haul trucks such that the freeboard is not less than three inches;
 - **b.** Prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides, and/or tailgate(s);
 - **c.** Cover all haul trucks with a tarp or other suitable closure; and
 - **d.** Before the empty haul truck leaves the site, clean the interior of the cargo compartment or cover the cargo compartment.
 - **308.2 Bulk Material Hauling On-Site Within the Boundaries of The Work Site:** When crossing a paved area accessible to the public while construction is underway, the owner and/or operator of a dust generating operation shall do all of the following:

- **a.** Load all haul trucks such that the freeboard is not less than three inches:
- **b.** Prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides, and/or tailgate(s); and
- c. Install a suitable trackout control device that controls and prevents trackout and/or removes particulate matter from tires and the exterior surfaces of haul trucks and/or motor vehicles that traverse such work site. Examples of trackout control devices are described in Table 17 of this rule.
- **308.3 Trackout, Carry-Out, Spillage, and/or Erosion:** The owner and/or operator of a dust generating operation shall do all of the following:
 - a. Install, maintain and use a suitable trackout control device (examples of trackout control devices are described in Table 17 Trackout Control of this rule) that controls and prevents trackout and/or removes particulate matter from tires and the exterior surfaces of haul trucks and/or motor vehicles that traverse such operation at all exits onto paved areas accessible to the public from both of the following:
 - (1) All work sites with a disturbed surface area of two acres or larger, and
 - (2) All work sites where 100 cubic yards of bulk materials are hauled on-site and/or off-site per day.
 - **b.** Clean up, trackout, carry-out, spillage, and/or erosion, on the following time-schedule:
 - (1) Immediately, when trackout, carry-out, or spillage extends a cumulative distance of 50 linear feet or more; and
 - (2) At the end of the workday, for all other trackout, carry-out, spillage, and/or erosion.
- **308.4 Unpaved Haul/Access Roads:** The owner and/or operator of a dust generating operation shall implement one or more control measure(s) described in Table 3 Unpaved Haul/Access Roads of this rule, before using or maintaining unpaved haul/access roads.

- 308.5 Easements, Rights-Of-Way, and Access Roads for Utilities (Electricity, Natural Gas, Oil, Water, and Gas Transmission) Associated with Sources that have a Non-Title V Permit, a Title V Permit, and/or a General Permit under These Rules: The owner and/or operator of a dust generating operation shall do at least one of the following:
 - **a.** Inside the PM_{10} nonattainment area, restrict vehicular speeds to 15 miles per hour and vehicular trips to no more than 20 per day per road;
 - **b.** Outside the PM₁₀ nonattainment area, restrict vehicular trips to no more than 20 per day per road; or
 - **c.** Implement control measures, as described in Table 3 Unpaved Haul/Access Roads of this rule.
- **308.6 Open Storage Piles:** For the purpose of this rule, an open storage pile is any accumulation of bulk material with a 5% or greater silt content which in any one point attains a height of three feet and covers a total surface area of 150 square feet or more. Silt content shall be assumed to be 5% or greater unless a person can show, by testing in accordance with ASTM Method C136-96A or other equivalent method approved in writing by the Control Officer and the Administrator of EPA, that the silt content is less than 5%. The owner and/or operator of such dust generating operation shall comply with all of the following:
 - **a.** Prior to and/or while conducting stacking, loading, and unloading operations, comply with one of the following work practices:
 - **(1)** Spray material with water, as necessary; or
 - (2) Spray material with a dust suppressant other than water, as necessary.
 - **b.** When not conducting stacking, loading, and unloading operations, comply with one of the following work practices:
 - (1) Cover open storage piles with tarps, plastic, or other material to prevent wind from removing the coverings;
 - (2) Apply water to maintain a soil moisture content at a minimum of 12%, as determined by ASTM Method D2216-98, or other equivalent methods approved by the Control Officer and the

Administrator of EPA. For areas that have an optimum moisture content for compaction of less than 12%, as determined by ASTM Method D1557-91 (1998) or other equivalent methods approved by the Control Officer and the Administrator of EPA, maintain at least 70% of the optimum soil moisture content;

- (3) Meet one of the stabilization requirements described in Section 302.3 of this rule; or
- (4) Construct and maintain wind barriers, storage silos, or a three-sided enclosure with walls, whose length is no less than equal to the length of the pile, whose distance from the pile is no more than twice the height of the pile, whose height is equal to the pile height, and whose porosity is no more than 50%. If implementing this subsection, the owner and/or operator must also implement either Section 308.6(b)(2) or Section 308.6(b)(3) above.
- **308.7 Soil Moisture:** If water is the chosen control measure in an approved Dust Control Plan, the owner and/or operator of a dust generating operation shall operate a water application system onsite (e.g., water truck, water hose) while conducting any earthmoving operations on disturbed surface areas 1 acre or larger, unless a visible crust is maintained or the soil is sufficiently damp to prevent loose grains of soil from becoming dislodged.
- **308.8 Weed Abatement by Discing or Blading:** The owner and/or operator of a dust generating operation shall comply with all of the following during weed abatement procedures by discing or blading:
 - **a.** Apply water before weed abatement by discing or blading occurs; and
 - **b.** Apply water while weed abatement by discing or blading is occurring; and
 - **c.** Either:
 - (1) Pave, apply gravel, apply water, or apply a suitable dust suppressant, in compliance with Section 302.3 of this rule, after weed abatement by discing or blading occurs; or

(2) Establish vegetative ground cover in sufficient quantity, in compliance with Section 302.3 of this rule, after weed abatement by discing or blading occurs.

SECTION 400 - ADMINISTRATIVE REQUIREMENTS

- **401 DUST CONTROL PLAN POSTING:** The owner and/or operator of an earthmoving operation shall post a copy of the approved Dust Control Plan in a conspicuous location at the work site, within on-site equipment, or in an on-site vehicle, or shall otherwise keep a copy of the approved Dust Control Plan available on-site at all times. The owner and/or operator of a dust generating operation that has been issued a Block Permit shall not be required to keep a copy of the 8½" by 11" site drawing according to section 304.2 of this rule.
- **402 COMPLIANCE SCHEDULE:** The requirements of this rule supercede any conflicting requirements that may be found in existing Dust Control Plans.
 - **402.1 For Earthmoving Permits:** If any changes to a Dust Control Plan, associated with an Earthmoving Permit, are necessary as a result of the most recent revisions of this rule, such changes shall not be required until the Earthmoving Permit is required to be renewed.
 - **402.2 For Non-Title V Permits And For Title V Permits:** If any changes to a Dust Control Plan, associated with a Non-Title V Permit or with a Title V Permit, are necessary as a result of the most recent revisions of this rule, then the owner and/or operator shall submit a revised Dust Control Plan to the Control Officer, according to the minor permit revision procedures described in Rule 220 and Rule 210 of these rules respectively, no later than 6 months after the effective date of the most recent revisions to this rule.

SECTION 500 - MONITORING AND RECORDS

COMPLIANCE DETERMINATION: To determine compliance with this rule, the following test methods shall be followed:

501.1 Opacity Observations:

a. Dust Generating Operations: Opacity observations of a source engaging in dust generating operations shall be conducted in accordance with Appendix C, Section 3 (Time Averaged Methods of Visual Opacity Determination of Emissions from Dust Generating Operations).

- **b. Unpaved Parking Lot:** Opacity observations of any unpaved parking lot shall be conducted in accordance with Appendix C, Section 2.1 (Test Methods For Stabilization For Unpaved Roads And Unpaved Parking Lots) of these rules.
- c. Unpaved Haul/Access Road: Opacity observations of any unpaved haul/access road (whether at a work site that is under construction or at a work site that is temporarily or permanently inactive) shall be conducted in accordance with Appendix C, Section 2.1 (Test Methods For Stabilization For Unpaved Roads And Unpaved Parking Lots) of these rules.

501.2 Stabilization Observations:

- **a. Unpaved Parking Lot:** Stabilization observations for unpaved parking lots shall be conducted in accordance with Appendix C, Section 2.1 (Test Methods For Stabilization-For Unpaved Roads And Unpaved Parking Lots) of these rules. When more than 1 test method is permitted for a determination, an exceedance of the limits established in this rule determined by any of the applicable test methods constitutes a violation of this rule.
- b. Unpaved Haul/Access Road: Stabilization observations for unpaved haul/access roads (whether at a work site that is under construction or at a work site that is temporarily or permanently inactive) shall be conducted in accordance with Appendix C, Section 2.1 (Test Methods For Stabilization-For Unpaved Roads And Unpaved Parking Lots) of these rule. When more than 1 test method is permitted for a determination, an exceedance of the limits established in this rule determined by any of the applicable test methods constitutes a violation of this rule.
- **c. Open Area And Vacant Lot Or Disturbed Surface Area:** Stabilization observations for an open area and vacant lot or any disturbed surface area on which no activity is occurring (whether at a work site that is under construction, at a work site that is temporarily or permanently inactive) shall be conducted in accordance with at least one of the techniques described in subsection 501.2(c)(1) through subsection 501.2(c)(7) below, as applicable. The owner and/or operator of such inactive disturbed surface area shall be considered in violation of this rule if such inactive disturbed surface area is not maintained in a manner that meets at least 1 of the standards described in subsection 302.3 of this rule, as applicable.

- (1) Appendix C, Section 2.3 (Test Methods For Stabilization-Visible Crust Determination) (The Drop Ball/Steel Ball Test) of these rules for a visible crust; or
- (2) Appendix C, Section 2.4 (Test Methods For Stabilization-Determination Of Threshold Friction Velocity (TFV)) (Sieving Field Procedure) of these rules for threshold friction velocity (TFV) corrected for non-erodible elements of 100 cm/second or higher; or
- (3) Appendix C, Section 2.5 (Test Methods For Stabilization-Determination Of Flat Vegetative Cover) of these rules for flat vegetation cover (i.e., attached (rooted) vegetation or unattached vegetative debris lying on the surface with a predominant horizontal orientation that is not subject to movement by wind) that is equal to at least 50%; or
- (4) Appendix C, Section 2.6 (Test Methods For Stabilization-Determination Of Standing Vegetative Cover) of these rules for standing vegetation cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 30%; or
- (5) Appendix C, Section 2.6 (Test Methods For Stabilization-Determination Of Standing Vegetative Cover) of these rules for standing vegetation cover (i.e., vegetation that is attached (rooted) with a predominant vertical orientation) that is equal to or greater than 10% and where the threshold friction velocity is equal to or greater than 43 cm/second when corrected for non-erodible elements; or
- (6) Appendix C, Section 2.7 (Test Methods For Stabilization-Rock Test Method) of these rules for a percent cover that is equal to or greater than 10%, for non-erodible elements; or
- (7) An alternative test method approved in writing by the Control Officer and the Administrator of the EPA.

502 RECORDKEEPING:

- Any person who conducts dust generating operations that require a Dust Control Plan shall keep a daily written log recording the actual application or implementation of the control measures delineated in the approved Dust Control Plan (including records on any street sweeping, water applications, and maintenance of trackout control devices, gravel pads, fences, wind barriers, and tarps).
- **502.2** Any person who conducts dust generating operations that do not require a Dust Control Plan shall compile and retain records (including records on any street sweeping, water applications, and maintenance of trackout control devices, gravel pads, fences, wind barriers, and tarps) that provide evidence of control measure application, by indicating the type of treatment or control measure, extent of coverage, and date applied.
- **502.3** Upon verbal or written request by the Control Officer, the log or the records and supporting documentation shall be provided within 48 hours, excluding weekends. If the Control Officer is at the site where requested records are kept, records shall be provided without delay.
- **RECORDS RETENTION:** Copies of approved Dust Control Plans, control measures implementation records, and all supporting documentation shall be retained for at least six months following the termination of the dust generating operation. Copies of approved Dust Control Plans, control measures implementation records, and all supporting documentation shall be retained for at least 1 year from the date such records were initiated. If a person has obtained a Title V Permit and is subject to the requirements of this rule, then such person shall retain records required by this rule for at least 5 years from the date such records are established.
- **TEST METHODS ADOPTED BY REFERENCE:** The test methods listed in this section are adopted by reference. These adoptions by reference include no future editions or amendments. Copies of the test methods listed in this section are available for review at the Maricopa County Environmental Services Department, 1001 North Central Avenue, Phoenix, AZ, 85004-1942.
 - **504.1** ASTM Method C136-96A ("Standard Test Method For Sieve Analysis Of Fine And Coarse Aggregates"), 1996 edition.
 - **504.2** ASTM Method D2216-98 ("Standard Test Method For Laboratory Determination Of Water (Moisture) Content Of Soil And Rock By Mass"), 1998 edition.

504.3 ASTM Method D1557-91(1998) ("Test Method For Laboratory Compaction Characteristics Of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)"), 1998 edition.

Table 1

Vehicle Use In Open Areas And Vacant Lots

- **a.** An owner and/or operator must implement one of the following control measures:
 - 1. Restrict trespass by installing signs; or
 - **2.** Install physical barriers such as curbs, fences, gates, posts, signs, shrubs, and/or trees to prevent access to the area.

Table 2 Unpaved Parking Lots

- **a.** An owner and/or operator must implement one of the following control measures:
 - Pave:
 - **2.** Apply and maintain gravel, recycled asphalt, or other suitable material, in compliance with Section 302.1 of this rule; or
 - **3.** Apply a suitable dust suppressant in compliance with Section 302.1 of this rule.
- **b.** Suggested additional control measure for contingency plans:
 - **1.** Limit vehicle speeds to 15 m.p.h. on the site.

Table 3 Unpaved Haul/Access Roads

- **a.** An owner and/or operator must implement one of the following control measures:
 - **1.** Limit vehicle speed to 15 m.p.h or less and limit vehicular trips to no more than 20 day;
 - **2.** Apply water, so that the surface is visibly moist in compliance with Section 302.2 of this rule;
 - 3. Pave;
 - **4.** Apply and maintain gravel, recycled asphalt, or other suitable material, in compliance with Section 302.2 of this rule; or
 - **5.** Apply a suitable dust suppressant, in compliance with Section 302.2 of this rule.

Table 4 Open Areas And Vacant Lots

- **a.** An owner and/or operator must implement one of the following control measures to comply with Section 302.3 of this rule:
 - 1. Pave, apply gravel, or apply a suitable dust suppressant;
 - 2. Establish vegetative ground cover in sufficient quantity; or
 - **3.** Restore area such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby undisturbed native conditions.

Table 5

Disturbed Surface Areas – Pre-Activity Work Practices

- **a.** Before activity begins, an owner and/or operator must implement one of the following control measures:
 - 1. Pre-water site to depth of cuts, allowing time for penetration; or
 - **2.** Phase work to reduce the amount of disturbed surface areas at any one time.

Table 6 Disturbed Surface Areas – Work Practices During Operations

- **a.** During operations, an owner and/or operator must implement one of the following control measures:
 - **1.** Apply water or other suitable dust suppressant, in compliance with Section 301 of this rule;
 - 2. Apply water as necessary to maintain a soil moisture content at a minimum of 12%, as determined by ASTM Method D2216-98 or other equivalent method as approved by the Control Officer and the Administrator of EPA. For areas that have an optimum moisture content for compaction of less than 12%, as determined by ASTM Method D1557-91 (1998) or other equivalent method approved by the Control Officer and the Administrator of EPA, maintain at least 70% of the optimum soil moisture content; or
 - **3.** Implement (a)(1) or (a)(2) above and construct fences or three-foot to five-foot high wind barriers with 50% or less porosity adjacent to roadways or urban areas to reduce the amount of windblown material leaving a site.
- **b.** Suggested additional control measure for contingency plans:
 - **1.** Limit vehicle speeds to 15 m.p.h on the work site.

Table 7

Disturbed Surface Areas – Temporary Stabilization (Up To 8 Months) During Weekends, After Work Hours, And On Holidays

- **a.** An owner and/or operator must implement one of the following control measures to comply with Section 302.3 of this rule:
 - **1.** Pave, apply gravel, or apply a suitable dust suppressant;
 - 2. Establish vegetative ground cover in sufficient quantity; or
 - **3.** Implement (a)(1) or (a)(2), above, and restrict vehicular access to the area.

Table 8

Disturbed Surface Areas – Permanent Stabilization (Required Within 8 Months Of Ceasing Dust Generating Operations)

- **a.** An owner and/or operator must implement one of the following control measures to comply with Section 302.3 of this rule:
 - **1.** Pave, apply gravel, or apply a suitable dust suppressant;
 - **2.** Establish vegetative ground cover in sufficient quantity; or
 - **3.** Restore area such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby undisturbed native conditions.

Table 9 Blasting Operations

- **a.** An owner and/or operator must implement all of the following control measures:
 - **1.** In wind gusts above 25 m.p.h., discontinue blasting; and
 - **2.** Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.

Table 10 Demolition Activities

- **a.** An owner and/or operator must implement all of the following control measures:
 - **1.** Stabilize demolition debris. Apply water to debris immediately following demolition activity; and
 - **2.** Stabilize surrounding area immediately following demolition activity. Water all disturbed soil surfaces to establish a crust and prevent wind erosion of soil.
- **b.** Suggested additional control measure for contingency plans:
 - **1.** Thoroughly clean blast debris from paved and other surfaces following demolition activity.

Table 11 Bulk Material Handling Operations Work Practices For Stacking, Loading, And Unloading Operations

- **a.** An owner and/or operator must implement one of the following control measures:
 - **1.** Spray material with water, as necessary, prior to stacking, loading, and unloading, and/or while stacking, loading, and unloading;
 - **2.** Spray material with a dust suppressant other than water, as necessary, prior to stacking, loading, and unloading, and/or while stacking, loading, and unloading.
- **b.** Suggested additional control measures for contingency plans:
 - **1.** Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.
 - 2. Remove material from the downwind side of the storage pile when safe to do so.
 - **3.** Empty loader bucket slowly and keep loader bucket close to the truck to minimize the drop height while dumping.

Table 12 Open Storage Piles

When Not Conducting Stacking, Loading, And Unloading Operations

- **a.** An owner and/or operator must implement one of the following control measures:
 - **1.** Cover open storage piles with tarps, plastic, or other material such that the coverings will not be dislodged by wind;
 - 2. Apply water to maintain a soil moisture content at a minimum of 12%, as determined by ASTM Method D2216-98, or other equivalent methods approved by the Control Officer and the Administrator of the EPA; or for areas that have an optimum moisture content for compaction of less than 12%, as determined by ASTM Method D1557-91 (1998) or other equivalent methods approved by the Control Officer and the Administrator of EPA, maintain at least 70% of the soil moisture content;
 - 3. Meet the stabilization requirements described in Section 302.3 of this rule; or
 - **4.** Implement (a)(2) or (a)(3), above, and construct and maintain wind barriers, storage silos, or a three-sided enclosure with walls, whose length is no less than equal to the length of the pile, whose distance from the pile is no more than twice the height of the pile, whose height is equal to the pile height, and whose porosity is no more than 50%.

Table 13

Bulk Material Hauling/Transporting Within The Boundaries Of The Work Site When Crossing A Paved Area Accessible To The Public While Construction Is Underway

- **a.** An owner and/or operator must implement all of the following control measures:
 - **1.** Load all haul trucks such that the freeboard is not less than 3 inches when crossing a paved area accessible to the public while construction is underway;
 - **2.** Prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides, and/or tailgate(s);
 - **3.** Install a suitable trackout control device that controls and prevents trackout and/or removes particulate matter from tires and the exterior surfaces of haul trucks and/or motor vehicles that traverse such work site.
- **b.** Suggested additional control measure for contingency plans:
 - 1. Limit vehicle speeds to 15 m.p.h. on the work site.

Table 14

Bulk Material Hauling/Transporting When On-Site Hauling/Transporting Within The Boundaries Of The Work Site But Not Crossing A Paved Area Accessible To The Public

- **a.** An owner and/or operator must implement one of the following control measures:
 - 1. Limit vehicular speeds to 15 m.p.h. or less while traveling on the work site;
 - 2. Apply water to the top of the load in compliance with Section 301 of this rule; or
 - **3.** Cover haul trucks with a tarp or other suitable closure.

Table 15

Bulk Material Hauling/Transporting Off-Site Hauling/Transporting Onto Paved Areas Accessible To The Public

- **a.** An owner and/or operator must implement all of the following control measures:
 - **1.** Cover haul trucks with a tarp or other suitable closure;
 - 2. Load all haul trucks such that the freeboard is not less than 3 inches;
 - **3.** Prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides, and/or tailgate(s); and
 - **4.** Before the empty haul truck leaves the site, clean the interior of the cargo compartment or cover the cargo compartment.

Table 16

Clean Up Of Trackout, Carry Out, Spillage, And Erosion

- **a.** An owner and/or operator must implement one of the following control measures:
 - **1.** Operate a street sweeper or wet broom with sufficient water, at the speed recommended by the manufacturer and at the frequency(ies) described in Section 308.3 of this rule; or
 - 2. Manually sweep up deposits in compliance with Section 308.3 of this rule.

Table 17 Trackout Control

- **a.** An owner and/or operator must implement all of the following control measures:
 - **1.** Immediately clean up trackout that exceeds 50 feet. All other trackout must be cleaned up at the end of the workday; and
 - **2.** In accordance with Section 308.3(a), prevent trackout by implementing one of the following control measures:
 - i. At all access points, install a grizzly or wheel wash system.
 - **ii.** At all access points, install a gravel pad at least 30 feet wide, 50 feet long, and 6 inches deep, in compliance with Section 213 of this rule.
 - **iii.** Pave starting from the point of intersection with a paved area accessible to the public and extending for a centerline distance of at least 100 feet and a width of at least 20 feet.
- **b.** Suggested additional control measures for contingency plans:
 - **1.** Clearly establish and enforce traffic patterns to route traffic over selected trackout control devices.
 - **2.** Limit site accessibility to routes with trackout control devices in place by installing effective barriers on unprotected routes.
 - **3.** Pave construction activity roadways as soon as possible.

Table 18 Weed Abatement By Discing Or Blading

- **a.** An owner and/or operator must implement all of the following control measures:
 - 1. Pre-water site;
 - 2. Apply water while weed abatement by discing or blading is occurring; and
 - **3.** Stabilize area by implementing either one of the following:
 - **i.** Pave, apply gravel, apply water, or apply a suitable dust suppressant, in compliance with Section 302.3 of this rule, after weed abatement by discing or blading occurs; or
 - **ii.** Establish vegetative ground cover in sufficient quantity, in compliance with Section 302.3 of this rule, after weed abatement by discing or blading occurs.
- **b.** Suggested additional control measures for contingency plans
 - 1. Limit vehicle speeds to 15 m.p.h. during discing and blading operations.

Table 19

Easements, Rights-Of-Way, And Access Roads For Utilities (Electricity, Natural Gas, Oil, Water, And Gas Transmission) Associated With Sources That Have A Non-Title V Permit, A Title V Permit, And/Or A General Permit Under These Rules

- **a.** An owner and/or operator must implement one of the following control measures:
 - **1.** Inside the PM10 nonattainment area, restrict vehicular speeds to 15 m.p.h. and vehicular trips to no more than 20 per day per road;
 - **2.** Outside the PM10 nonattainment area, restrict vehicular trips to no more than 20 per day per road; or
 - **3.** Implement control measures, as described in Table 3 (Unpaved Haul/Access Roads) of this rule.

Note: For Tables 20 & 21, control measures in [brackets] are to be applied only to dust generating operations outside the nonattainment area.

Table 20 Wind Event Control Measures-Dust Generating Operations

- **a.** An owner and/or operator must implement one of the following control measures:
 - **1.** Cease dust generating operations for the duration of the condition/situation/event when the 60-minute average wind speed is greater than 25 m.p.h. and if dust generating operations are ceased for the remainder of the work day, stabilize the area;
 - **2.** Apply water or other suitable dust suppressant at least twice [once] per hour, in compliance with Section 301 of this rule;
 - **3.** Apply water as necessary to maintain a soil moisture content at a minimum of 12%, as determined by ASTM Method D2216-98 or other equivalent method as approved by the Control Officer and the Administrator of EPA. For areas that have an optimum moisture content for compaction of less than 12%, as determined by ASTM Method D1557-91 (1998) or other equivalent method approved by the Control Officer and the Administrator of EPA, maintain at least 70% of the optimum soil moisture content; or
 - **4.** Implement (a)(2) or (a)(3), above, and construct fences or three-foot to five-foot high wind barriers with 50% or less porosity adjacent to roadways or urban areas to reduce the amount of wind-blown material leaving a site.

Table 21

Wind Event Control Measures-Temporary Disturbed Surface Areas (After Work Hours, Weekends, Holidays)

- **a.** An owner and/or operator must implement one of the following control measures:
 - **1.** Uniformly apply and maintain surface gravel or dust suppressants, in compliance with Section 302.3 of this rule;
 - **2.** Apply water to all disturbed surface areas 3 times per day. If there is any evidence of wind-blown dust, increase watering frequency to a minimum of 4 times per day;
 - **3.** Apply water on open storage piles at least twice [once] per hour, in compliance with Section 302.3 of this rule; or
 - **4.** Cover open storage piles with tarps, plastic, or other material such that wind will not remove the covering(s).
- **b.** Suggested additional control measures for contingency plans:
 - **1.** Implement a combination of the control measures listed in (a)(1) through (a)(4), above.